



Twin City "A" at Minneapolis
See "Fighting Fathers" on Pages 2-3

Grain

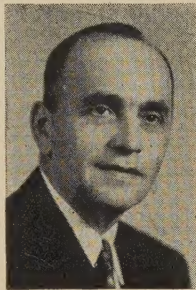
JULY, 1945

Fighting Fathers in Minneapolis Terminal Do Their Share to Win the Peace

While the boys who have been winning the war on the fighting front have been getting the headlines, some of their fathers on the home front have been working to win the peace—like the crew at Twin City Trading Company's terminal elevator, which, according to the *Minneapolis Sunday Tribune* recently, in thirty days processed 185 carloads of seed wheat bound for Czechoslovakia.

Europe faces lean days this winter, wrote staff writer E. W. Kieckhefer, with much of its food supply destroyed and little food being raised this year. Increased production of livestock is a long process, so the United Nations Relief and Rehabilitation Administration decided to emphasize the produc-

ACCOMPLISHES THE IMPOSSIBLE



something important for the war effort"—as indeed it was. Hat's off to the Twin City crew!

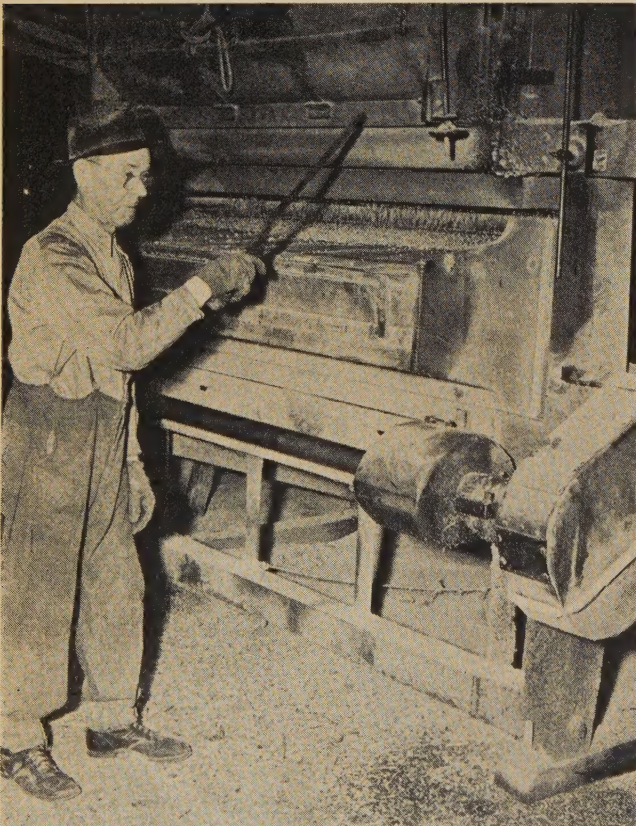
It might be of interest to know what we have been doing at the Twin City "A" for the past several weeks, writes Clarence C. Bach, able Superintendent. "We are all glad that the job is finally completed, but at the same time we feel that it was a chance for all of us to do

tion of cereals. But to grow grains, seed is needed.

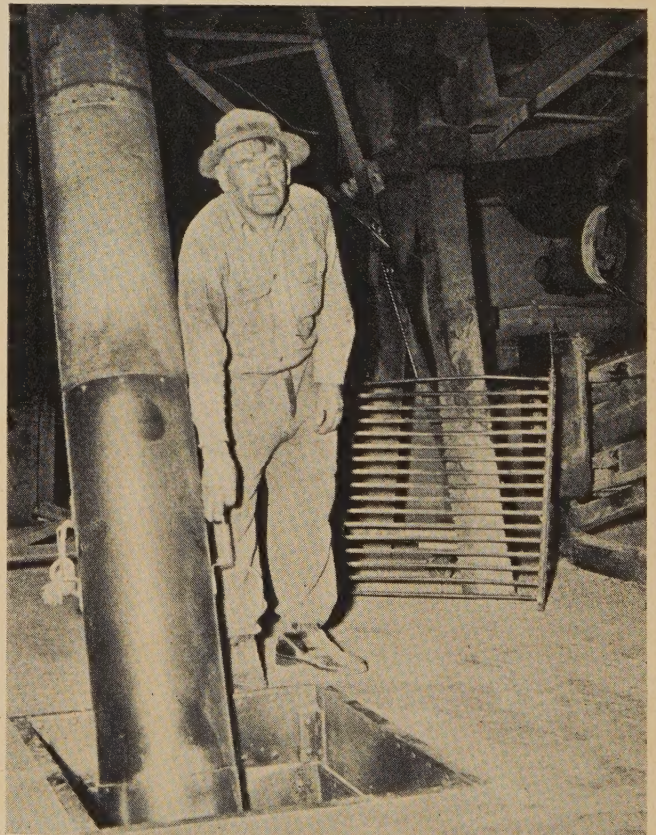
Bags and Grain

A few weeks ago UNRRA called upon the War Food Administration to supply about 500,000 bushels of seed wheat for Czechoslovakia, one of the major breadbaskets of Europe. WFA sent out a call to seed houses in the United States and the Twin City Seed Company agreed to process half of the Czech seed requirements.

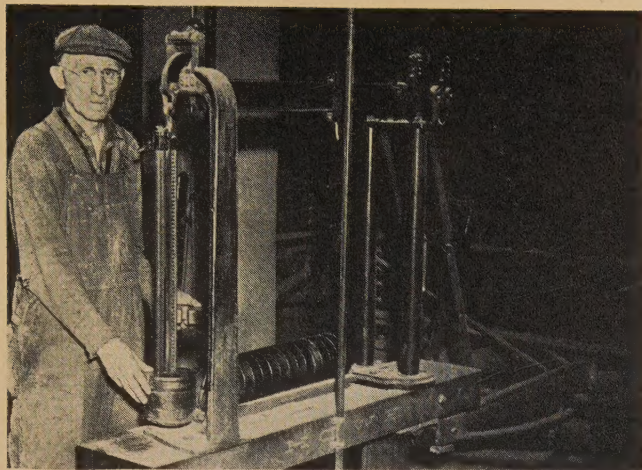
Hastily arrangements were made with Minneapolis bag companies to provide the necessary containers. One bag firm set its entire force to work on printing the bags, and even drafted its office staff into the plant for the job, this *Tribune* story relates.



Jacob Wrobel's 21 years of experience were needed to handle the special shipment of seed wheat, so although retired, he came back to work on the cleaning machine pictured. Two of his sons gave their lives in this war.



Spouting seed wheat to the grading equipment, where it was cleaned and made ready for planting in Europe, is Frank Dolny, for 26 years the house foreman. He had three sons in Europe.



Ole Arnston, 58, house weigher for the past 31 years and still going strong, weighed in and weighed out the seed wheat.



Anton Krezowich, Rodney Olson and Oscar Akre are three more of those who worked from 12 to 14 hours a day to get these 185 carloads of seed loaded and on its way.

Long distance calls were made to arrange for movement of the grain from the country to the Twin City Trading Company's terminal elevator for cleaning and grading. A lucky break located a supply large enough for the order at the Campbell Farms Corporation at Hardin, Montana, which had 238,000 bushels of Kharkov variety hard winter wheat and some other varieties.

Stanley Folsom, general manager of Twin City Seed Company, said never in his years in the business had he had such co-operation. Mrs. O.B. Maddox, manager of the Campbell Farms; the Atwood-Larson Company, which handled the grain transaction; the bag firms; the railroads and the Interstate Commerce Commission, and the federal government agencies involved all contributed to the success of the project, Folsom said.

Fighting Fathers Work 12-14 Hours a Day

But the big job was to get the grain through the cleaning machinery. Arrangements were made with the Twin City Trading Company to use its terminal units for the work. There veterans of the grain business were told of the urgent need for the seed—it had to be cleaned and graded and shipped to the east coast for loading on boats and arrive in Czechoslovakia in time for planting so Europe will have wheat early next year.

Men in their fifties and sixties went to work—seven days a week and often twelve to fourteen hours a day, weighing in and out the grain, spouting it to the cleaning and grading equipment, sewing the bags and loading them into boxcars. In one day the

crew turned out 4,302 bags of seed, each filled with 150 pounds of top grade seed grain.

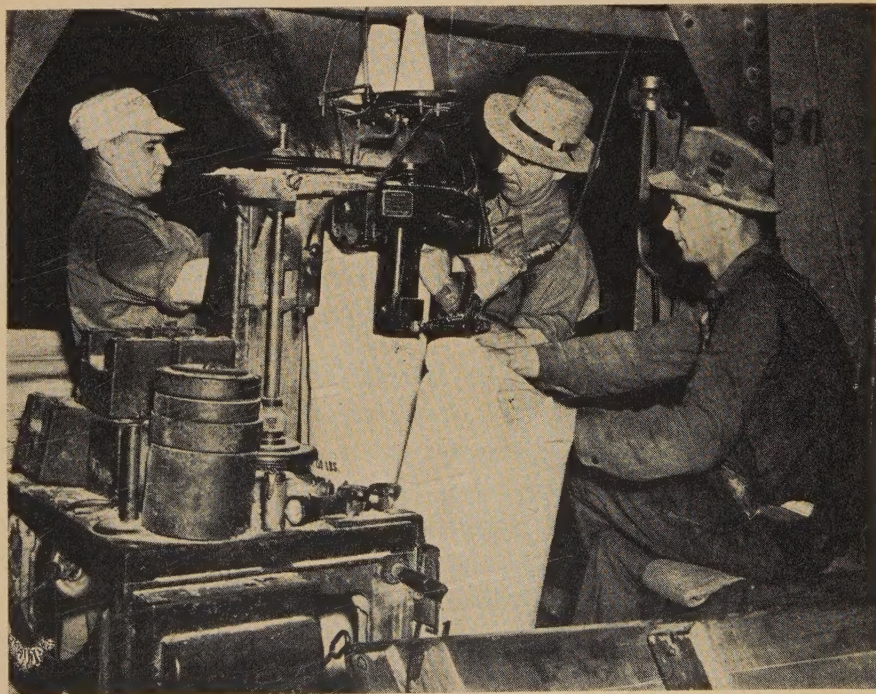
A year from now, when the hungry people of Europe eat the products of this Northwest grain, they can thank these men for the work they did in Minneapolis in June of 1945—and don't think they won't! "A splendid job all the way 'round, and one deserving of widest praise and congratulations," said Herbert C. Brand, Quaker Oats Company, Cedar Rapids, President of the Society of Grain Ele-

vator Superintendents, when apprised of the colossal undertaking.

While this particular job was pretty strenuous for the men, reflects Super Clarence Bach, we all take a certain amount of pride out of it, and I am sure that we will always have the satisfaction of knowing we contributed mightily to a big job well done.

More than half of all deaths from accidents in the home in 1944 occurred among persons 65 years and over, according to the National Safety Council.

These 150 pound bags of choice seed wheat are shown moving through the sewing machine on their way to Europe—and at the rate of eight bags a minute. Doing the job, left to right, are: Tom Hathaway, Harvey Quist and Gilbert Nelson.



THEN COMES THE BIG BUST!



A spark! A flash! And then comes the big BUST. A dust explosion E-X-P-A-N-D-S! If no "exits" are available, it proceeds to wreck the place . . . and we do mean WRECK.

Robertson Safety Ventilators mounted on elevator leg are safety "valves" that immediately release death-dealing, property-destroying pressure of a dust explosion on the loose . . . preventing s-p-r-e-a-d of destruction. Continuous gravity action vents dangerous dust from elevator leg, thereby minimizing risk of *primary* explosions. Write for descriptive literature. Be on the safe side with Robertson Safety Ventilators.

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REPAIRS, MAINTENANCE AND LUBRICATION

Being the Minutes of One of the SOGES Round-Tables Reported by Clarence W. Turning and Presided Over by Frank E. "Slim" Carlson as Discussion Chairman. Mr. Carlson Has an Envious Reputation for the Superb Maintenance Program He Established for the Occident Elevator at Duluth, Which More and More Plant Heads Are Commencing to Follow as They Learn of the Details.

Question: What are Vanango cups?

Mr. Carlson: They are a type of grease cup that act somewhat like a bottle oiler. It is a Keystone product and they have a grease cup for these which is highly refined. It is light enough that the vibration on the pin allows a small portion of grease to be fed to the bearing continuously while operating.



Keystone also has a product called "condensed grease." This looks like an oil. It is light enough to penetrate, but does not "creep." It stays where you want it. If you have bore trouble with oil spreading all along the shaft, try this grease. As a test, a drop of regular oil on a blotter will spread all over it, but a drop of this condensed grease just seems to stay there without spreading too much. Consequently it has been found to be a very good lubricant for any bearing, including ring oiled motor bearings.

Question: What high grade oil do you use to get cool bearings?

Mr. Carlson: Dynamo oil. It is a high priced oil. It is an oil that pours readily, is free flowing and with high viscosity.

Question: Do you use the same oil in motors the year around?

Mr. Carlson: We use No. 10 in the winter for ring oil bearings, and No. 20 or No. 30 in the summer time. We tested the different oils in a laboratory. We found in one case that our regular purpose oil tested better than our special high-priced oil that we had purchased for year 'round motor oil.

Another Super said he changed oil in the winter, using a Keystone product costing 90c a gallon. "We let it

LUBRICATING GREASE

By Clarence W. Turning

Whatever the type of service it is designed for, lubricating grease should possess certain very definite properties if it is to give successful and satisfactory results, viz:

1. Its melting point and hardness should be definitely adapted to the operating temperatures and pressure where it is to be used.

2. It should have sufficient body to insure a film of lubricant between the bearing surfaces under the maximum possible pressure that might occur.

3. It should contain no so-called non-lubricating "fillers" such as asbestos, talc, soapstone or chalk—which are used mainly as cheap mediums to give greater viscosity or body. Such substances will contain a certain amount of grit and will cause scoring of the bearings.

4. It should not have a rubber appearance, inasmuch as this is an indication of too little water used in mixing. Such a grease will almost always separate later on.

5. It should be as free as possible from the tendency to decompose, oxidize, or turn rancid on exposure to the air.

6. It should not be liable to gum, or clog the oil ducts, however adverse the operating conditions.

7. It should be absolutely homogeneous and of uniform consistency throughout, and there should be no impurities or lumpy matter present to cause clogging of the lubricating cup or oil ducts.

alone," he said, "as it doesn't seem to wear out." An Arcady Farms Milling Co. representative said they had 375 motors in use and had not

had a burned out bearing for 3 years. Another Super said they used McMillan "Ring-Free" on their motors with considerable success. Another Super recommended condensed motor oil where it is possible to use it. A poll showed that over half of the Supers participating changed their oil in the winter.

Tripper Bearings Greatest Trouble

Mr. Carlson: We have had more trouble with tripper bearings than anything else. They run hot. The shafts usually are not heavy enough. We threw out the original bearings and put in Dodge-Timkens. Where you have a hard lubricating problem put in anti-friction bearings and you can forget it, otherwise you will ultimately have to replace the old style bearings and perhaps the shafts as well. The shafts may run so hot that they will crystalize, then you have to put in a new shaft. And if you get a hot bearing you cannot get near it for half a day—they hold the heat that long, so there is a lot of lost time as well. Anti-friction bearings are most certainly recommended.

OIL STORAGE: Several Superintendents stated they had separate rooms for storage of lubricants, away from everything else.

Question: "Do you find much of your trouble in lubrication," asked one inquirer, "on boot bearings?"

Mr. Carlson: No, not too much trouble there. There is not the strain on them.

MOTOR ALIGNMENT: These things do get out of line. In a wooden house that is pretty hard to overcome. In a concrete house it occurs because of wear. Bearings wear differently because one piece of babbit is not as good as another. Required tolerance in a grain elevator is not very close, but if the alignment gets too bad you will have a broken shaft.

OILERS: Discussion brought out the fact that all Supers are having difficulty in getting the proper type of men for oilers. There is more than the usual amount of carelessness, they thought.

Mr. Carlson: If you break the oiler in right in the first place, you get a good oiler. If you don't do so you have a bad oiler the rest of his life. Most of all teach him to keep his bearings clean.

ANNUAL REPAIRS: One Super stated they had an annual period for repairs—between rush seasons. "We don't wait for trouble," he said, "we try and eliminate bad conditions before they cause trouble. We check the bearings whether they need it or not during the summer season. We have found this plan very successful—as when the busy season comes we are prepared to handle the rush without worrying about break-downs. We try to check over all our equipment during the summer months," he said.

Another Super asked: "What can you do when there is no slack season?"

It was suggested that each Super keep a list of the repairs that are needed, and from time to time do what is possible.

CLOGGED SCREW CONVEYORS: It was suggested that hinged doors be placed in the covering. Then a pile of grain will come through and when the men see it they can shut the conveyor down before it clogs badly. Also, when you do that by each bearing it gives you a chance to inspect your bearings. The hinge mentioned is so

placed that it will open with the flow of the grain.

Discussion developed that this would work very well on the flat top conveyor housings, but may not be practical on the other types. One Super added: "We have our cover in short length sections. You have a bolt every 12 inches to hold the cover down."

BOOT PULLEYS: Discussion as to the best type of boot pulleys to use developed that most Supers preferred the flat surface or wing types, although one delegate told of installing the wing type some five years ago only to find that it wears the belt more than the other type.

Mr. Carlson: The wing type allows the grain to work through without crushing it. I would suggest that hard surface friction type belt be used.

Further discussion on belt wear brought out the fact that due to the buckets being spaced 10 to 12 inches apart that the bucket bolts will hit on the wings of the pulley. As there is nothing on the other side of the belt to support it, the wear is through the bad side of the belt near the bucket holes.

Different weather conditions make a difference in temperature of belts. One cannot always have a fellow around to put tension on the belts when they need it, consequently they have a screw take-up. "All of ours were automatic take-up," Mr. Carlson countered.

Mr. Carlson: Can these hand take-ups be replaced by automatic take-ups?

Answer: We would have to remodel the whole side of the boot, and there is not enough space there now to allow for the automatics. It is just a weight take-up.

One Super said the belts he had had a tendency to run to one side, although the guides were pretty tight.

The suggestion was to change the weight tension a little bit, to put a little more weight on the other side.

Mr. Carlson: To keep them from running to one side also adjust the deflector pulley.

Still another participant said: Our belts are 60 feet in height. If you fool around with the knee pulley you throw it out and it takes a long time to bring it back. It is a difficult adjustment on the knee pulley. We make the adjustment at the head pulley.

Another mentioned having a belt 23 inches out of line.

Mr. Carlson: Each elevator presents a different problem. The details are different, but the basic principles are about the same and require constant vigilance and eternal forethought.

PRIORITIES TO END SEPT. 30

The old wartime priorities control system, including the Controlled Materials Plan, will be replaced on Sept. 30th by a new, limited system for use during the reconversion period. The new junior non-extensible civilian "CC" preference rating is to be used in limited cases to break bottlenecks in reconversion and insure, when necessary, continued production and services.

NEW DEFERMENT REQUESTS

Employers will be required to submit, prior to Sept. 15, new deferment requests for any registrants for whom they desire renewal of deferment. Same form to be used as previously, and filed with local board without certification. Induction will be confined to registrants 18 through 25.

BILL WOULD AFFECT ELEVATORS

S. 293, a Senate Interstate Commerce bill scheduled to come up early next session, would place terminal and sub-terminal grain elevators, among others, under the coverage of the Railroad Retirement Act. Employees would be taken away from Social Security coverage with 1% paid by employe and employer, into RTA coverage which eventually would take 6¼% from each. Proper efforts were made to correct the indirection of the bill.



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Pneumatic Handling the Coming Method

Says J. L. DURNIN, R. E. Chase & Co., Tacoma
Before the Association of Operative Millers at Spokane

The idea of conveying pneumatically has been experimented with for over seventy-five years.

As far back as 1865 the enormous amount of hand labor involved in the handling of grain led to experiments in England along the line of pumping grain through pipe lines. This was not strictly pneumatic conveying but these experiments led to others where air was used as the conveying medium.

The first practical pneumatic conveying system was devised in 1867 by an American. It consisted of a system of fans and pipe lines which was used for handling cotton in loose form.

There were many difficulties, however, to be overcome in expanding this first system to take care of other materials and it was not until 1892, when an English engineer designed and applied a mixing nozzle and an air lock, that modern conveying really began.

European Grain Trade Adopted It By 1900

FOLLOWING these developments English, Belgium, French and German engineers worked out additional improvements and by 1900 the grain industry in Europe had adopted the method generally and many other materials were being handled successfully.

The success of these pneumatic conveying installations led to the entrance of many competing organizations into the field. Most of these organizations lacked the experience which was necessary for solving the unusual problems which developed with the application of pneumatic conveying to a wider field of use, and many of the systems which were installed did not work out properly. As a result, during the years that followed to the outbreak of the war in 1914 prejudice against the use of pneumatic conveyors became wide spread and further developments came at a much slower rate.

Since the war, however, pneumatic conveying has thoroughly established itself, and today is constantly expanding its field of application. The experiences of the present makers of

equipment are ample, and they are thoroughly familiar with its limitations as well as its adaptability. It has become recognized by engineers as offering the best solution to certain materials handling problems and is being adopted as the most economical method of handling many bulk materials.

Grains are in that general class of materials for which a better method of handling is necessary than belt conveyors, bucket elevators, screw conveyors, drag line conveyors and automatic shovels. This is clearly indicated by the fact that in the beginning and throughout the years of de-



velopment the problem of handling grain has offered the greatest incentive to pneumatic conveying experimentation.

Unload 300 Tons Hourly

THE most extensive early use of pneumatic conveyors was for unloading grain at European ports of entry. The present capacities of these grain unloaders are quite impressive, ranging up to 300 tons per hour.

While the United States is largely an exporter of grain, we do have many pneumatic grain unloading systems in operation at American ports.

The largest single grain unloading system in this country is owned and

operated by the New York State Grain Elevators for unloading canal barges. Two intake lines of the telescopic type unload, salvage and dry grain at the rate of 200 tons per hour from barges to recipients located at an elevation of 100 feet above water level, and delivers same on to a belt conveyor for further transportation to the house.

The intake lines are operated by electrical winches with push button control, making it convenient for a man on the platform to reach any level or point in the barges. A positive pressure blower driven by a 250-HP motor through a reduction gear constitutes the power plant of this installation. Another interesting marine installation is the one in use by the Texas Star Flour Mills at Galveston, Texas, unloading grain at the rate of 200 tons per hour.

Minimum of Contamination; Suction Salvages All Grain

A FURTHER important field of application for the pneumatic conveyor is that of unloading grain from boxcars, especially where sanitary requirements are strict. The door bulkheads remain intact and except when cleaning up there is a minimum of contamination of the grain.

When automatic shovels are used for this purpose the bulkheads must be broken out and then the operator must tramp back and forth in the grain, working under some risk of injury as well.

So far we have discussed only the unloading of grain as received at the mill or elevator, and for this phase of grain handling the suction or vacuum type of pneumatic conveyor is used. For handling in the mill proper, such as transferring grain from one storage bin to another or from the main silos to batch bins or certain processing equipment at a constant flow rate, the pressure type of pneumatic conveyor is usually more suitable.

Actually, both types are pressure systems because in the case of the vacuum type the exhaustor merely reduces the intake pressure and atmospheric pressure creates the air stream. A system which draws the

material towards an exhaustor we term a vacuum system and a system which carries the material away from a blower we term a pressure system.

Unscrambling Pneumatic System Principles

LET us say the same thing in another way. For a given air flow requirement the same piece of equipment—the air pump necessary to produce the air flow for conveying—can be used for either type of system. If the conveyor operates towards the suction side of the air pump it is called a vacuum system and the

pump is called a vacuum pump or exhaustor; but if the conveyor operates from the discharge or pressure side of the air pump it is called a pressure system and the pump is called a blower.

If we will think of pneumatic conveying in terms of a high velocity air stream in which the material being conveyed is suspended, we will get the clearest idea of the fundamental operating principle. A pneumatic conveyor consists of the following elements:

(1) A suction nozzle or feeder: In the VACUUM type, the material is

drawn into the system by a suction nozzle which is provided with adjustable air inlets and connected to the conveying line by flexible pipe or hose. In the PRESSURE type, the material is released into the system by gravity through a proportioning device such as a rotary feeder connected directly to the conveying line.

(2) A conveying pipe and air line: The conveying pipe and air line are usually standard weight steel pipe. Since the material is carried in suspension the only place where serious wear occurs is at bends in the line and here harder reinforced surfaces or replaceable wear liners are provided.

(3) A suitable discharge device for separating the material from the air stream: In the vacuum type, a recipient or expansion tank is used and to it is attached a discharge lock for extracting the material without breaking the vacuum.

In the pressure type, the receptacle into which the material is being discharged will usually serve as a suitable expansion chamber for separating the material from the air stream, and in cases where dust is not objectionable a small discharge nozzle only is used. This nozzle may be provided with a special device to distribute the material evenly and eliminate shoveling or "trimming" at the storage point.

Capacity Requirements Determine

(4) An air pump for producing the necessary air current: For this, American manufacturers prefer to use the high speed positive exhaustor or blower. Depending, of course, on economic considerations, capacity and design requirements, other types of equipment such as inverted reciprocating air pumps, air compressors and centrifugal turbo-blowers may also be used.

(5) A filter or dust arrester for cleaning the air streams of all finely divided material: In the case of the vacuum type of system this apparatus prevents the dust from being carried over into the vacuum pump, and in the case of the pressure type of system from being scattered over the mill area adjacent to the discharge device. This dust separation usually is accomplished by a stocking-type collector.

It is usually possible with vacuum type systems to combine the recipient; discharge lock and dust arrester into one compact unit, and it might not be amiss to describe this combined unit.

The recipient is built along the lines of a cyclonic separator and operates by the same principle. Directly above

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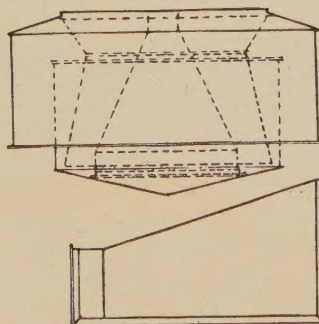
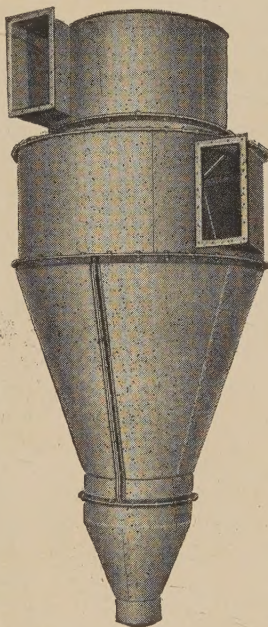
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is located a dust arrester with a shell of the same diameter as the shell of the recipient, and to the bottom discharge opening of the recipient is connected a motor operated rotary valve.

The incoming air and material enter the recipient at a tangent to its shell, and the sudden expansion of the air stream combined with the effects of centrifugal force and the action of the baffles located in the recipient, causes most of the material to drop to the bottom. Only the lighter finely divided material enters the filter.

This filter is sectionalized and provided with a shaking device which automatically isolates one section after another and shakes the bags of the isolated section, discharging the collected dust into the recipient below. The rotary valve at the bottom of the unit extracts all of the material as collected without breaking the vacuum, and the vacuum pump removes the air through an air line connected to the top of the unit.

Enumerates Advantages In His Opinion

AS to the particular advantages of pneumatic handling of grains, we have:

(1) *Labor Saving*: There are no shovelers, wheelbarrow men, or any of the manual labors usually associated with grain handling. One man can handle all of the grain down to the last shovelful directly from the point of receipt to the point of storage or use without any intermediate handling.

(2) *Dustless Operations*: There is no dust in pneumatic handling. This is gaining in importance as rules governing working conditions are becoming more rigid.

(3) *Less Contamination of the Grain*: The quality in finished products made possible by the use of pneumatic conveying cannot be equalled by any other system of handling. This is important because grains are used for making a variety of food products.

(4) *Lower Upkeep*: Because there are very few moving parts in a pneumatic conveying system, maintenance costs are reduced to a minimum. Since the material is carried in suspension and does not come in contact with the conveying line except at the elbows or bends, the wear is confined to these points, and even then is not serious except where abrasive substances are handled.

(5) *Ease of Installation*: A pneumatic conveying system is almost entirely a pipe fitting job. The principal equipment is easily located and

Why Uncle Sam is ahead more than 6 MILLION DOLLARS A DAY

BALANCE SHEET

In the other World War

The railroads, in 1918, performed 405 billion ton-miles of freight service.

Railroads performed 42 billion miles of passenger service in 1918.

Freight rates were raised about 25%.

The government took over the operation of the railroads.

Deficits resulting from Federal operation cost the taxpayers 2 million dollars a day.

In this World War

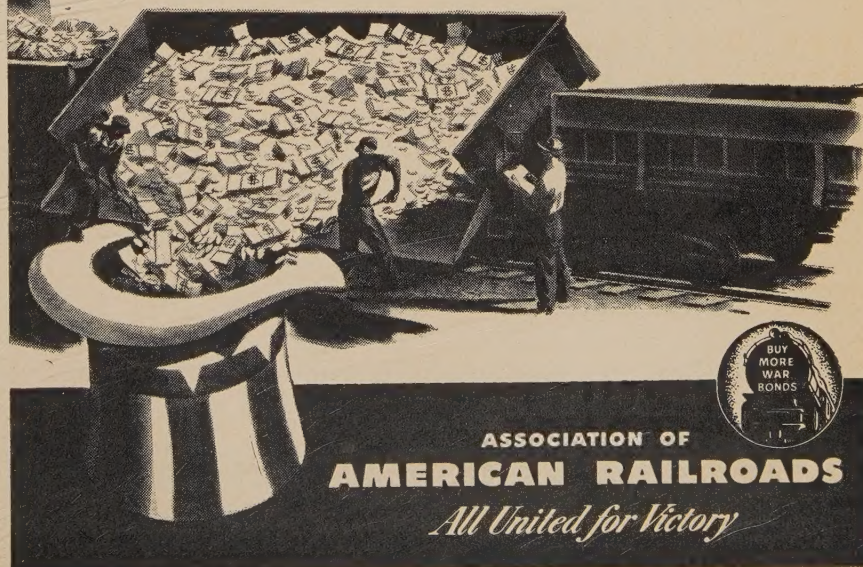
The railroads, in 1943, performed 727 billion ton-miles of freight service, 737 billion in 1944.

Railroads performed 87 billion miles of passenger service in 1943 and 95 billion in 1944.

Freight rates remain substantially the same as they were prior to the war.

The railroads have remained under their own management.

The railroads are paying Federal taxes at the rate of more than 4 million dollars a day — to say nothing of their state and local taxes.



ASSOCIATION OF
AMERICAN RAILROADS
All United for Victory



does not require much floor space. Conveying lines can be laid out to go over roadways or under them, up the side of a building or through it—or in short, wherever it is desired.

(6) *Flexibility of Application:* With no other system is such a wide variety of combinations of material handling operations possible. With no other system is it possible to distribute grain as economically and independently as by pneumatic conveying. An entire bulk shipment of grain can be unloaded and conveyed to central storage silos by the use of a vacuum system, and distributed to the points of use when and as needed

by the use of a pressure system, or we may use a combined vacuum system and pressure system for storing in part and distributing in part at the same time the unloading is taking place.

Another point which should not be overlooked is the easy way in which automatic weighing equipment can be installed in connection with such combinations, so that accurate and automatic control of the grain received and distributed can be maintained.

The chief objection to pneumatic conveying has been its high power requirement. This objection has become less serious as the cost of power

has been reduced while labor costs have skyrocketed, making it essential to use materials handling equipment which reduces labor costs, improves working conditions and eliminates risk of injury.

This is a very sketchy outline of pneumatic handling of grain and of the possibilities of pneumatic conveying, but I think we have seen enough of the flexibility, adaptability and economy in this method of conveying to realize that not only for the handling of grains, but for any bulk material it would be wise to investigate the possibilities of pneumatic conveying before deciding on any other method of handling.

ISSUE BEAUTIFUL BROCHURE ON GRAIN HANDLING

Probably one of the most exquisite educational pieces issued in recent years is the new booklet just released by the Minneapolis Chamber of Commerce entitled: "Grain—From Farm To Market." As the name indicates, the many steps taken by a kernel of grain from the field to the spoon or to the slice of bread were excellently portrayed and exactly described.

The seed, progress in production, processing, marketing, buyers and users, the steps through the country elevator and into the terminal, inspection and grading, exchange floor trading, hedging, et al, are revealingly presented. Not only is such a text a boon to the educational and economic institutions, but a review every now and then by all those within the industry would give a greater appreciation of the niche we fill.

LOSES LICENSE SUIT

Arguments advanced by the City of Chicago in justifying boosting elevator license fees 300% were that the grain elevators are classified as hazardous use units and constitute one of the greatest hazards with which the city and its fire and police departments have to cope; that the ordinance was a protection against the extra fire and explosion hazards arising from the operation of a grain elevator due to dust explosions. Chicago has but 41 elevators today of approximately 47 million bu. total capacity.

Okay To Express Self

So long as there is no coercion or threat of reprisal, an employer cannot be prevented from telling his employees that he prefers to deal directly with them instead of through a union.

For Sale

Grain Elevator Machinery

- 1—Receiving Hopper with Scoop Car Unloader and approximately 40 feet, 4 ply concentrated rubber covered belting 30" wide.
- 196 foot conveyor equipped with 4 ply concentrated rubber covered belting 30" wide with a rope drive and rope take-up.
- 11—Legs with 6"x18" buckets on 4 ply belting, and sheet metal housing.
- 1—Horizontal drive shaft—8" diameter reduces to 6" in diameter—for 11 Legs.
- 5—Legs with 6"x18" buckets on 18" centers mounted on 4 ply rubber covered belting.
- 1—6" diameter Horizontal Shovel Shaft serving 5 Clark-Beatty Automatic Car Power Shovels.
- 1—Car Spotter with 1½" diameter rope.
- Wood in 147 Grain Storage Bins, 10 feet x 12 feet x 60 feet with flexible hopper discharge.
- 230 feet 4 ply rubber friction surface belting 44" wide with 14 foot diameter pulley.
- 1—60 H.P. 1740 R.P.M., 440 Volt, 3 Phase, 60 Cycle, A.C. Northwestern Fire Pump Motor connected to a Bourtenay Fire Pump.
- 9—Lengths of Fire Hoze with nozzles.
- 1—General Electric 7 K.W. 1800 R.P.M., D.C. Generator directly connected to a General Electric Motor, — H.P., 440 Volt, 3 Phase, 60 Cycle, complete with panel.
- 1—300 H.P., 514 R.P.M., General Electric Motor complete with generator, panel, clutch, and chain drive.
- 11—Steel Weighing Hoppers each complete with scale.
- 1—Car Puller.

Wire or Write for Full Information to C. F. PETERSON

The Cuneo Press, Inc.

22nd and Canal Streets

Chicago 16, Ill.

Weights Antedate Even the Use of Money

Says JOE SCHMITZ, Chief Weighmaster
Chicago Board of Trade

WEIGHTS and Measures hold an important place in the history of the world and will continue to be a necessity of human society. As John Quincy Adams stated: "Weights and Measures may be ranked among the necessities of life to every individual. They enter the economical arrangements and daily concerns of every family. They are necessary to every occupation of human industry, to the distribution and security of every species of property, to every transaction of trade and commerce, to the labors of the husbandman, to the ingenuity of the artificer, to the studies of the philosopher, to the researches of the antiquarian, to the navigation of the mariner and the marches of the soldier, to all the exchanges of peace and all the operations of war."

Weights and Measures are of ancient origin and have governed the commerce of the world since long before the time of Christ. Weight antedates the use of money of any sort, for money was so much weight of metal in the balance.

Now, the products of the farm are evaluated largely by the factors of quality and quantity. These two elements are inseparable in many instances. Quality depends much on appearance, taste and color. There is no arbitrary way of justly determining all the phases of quality except by results. Quantity element, however, since it is a matter of fact and not of opinion, can always be readily determined. Yet the exactitude with which quantity is measured depends upon the fitness of the measuring instrument.

Bushel Measure Gave Way Early

IN THE early days the grain that was bought and sold was measured by the bushel or its subdivisions, hence, these measures were of prime importance in determining quantity, but with the realization of their shortcomings, due largely to the variances in specific gravity of the grain (now

called test weight), the system of determining quantity by volume was displaced by weighing and scales became the measuring instrument.

Progress in the science of scale making antedates the time of the Roman Empire, but it is a far cry from the wooden beam with equal arms to the present modern scale of carload capacity, from the scale which required weights equal to the amount

Commencing his outstanding career as a weights inspector in 1899, Joseph A. Schmitz, chief weighmaster of the Chicago Board of Trade, later became supervisor. Before being appointed chief of the department, he served as assistant to H. A. Foss, likewise widely known and respected for his fund of knowledge.



First as an apprentice, then as a journeyman scale mechanic, "Joe," as he is so fondly known to the entire industry, acquired his "l'arnin'" the hard way. Head of a staff of deputy weighmen, supervisors, scale inspectors and clerks, his department submits the weight certificates that are independent of the interests of either buyers or sellers of grain, grain products and seeds, which serve as the medium of settlement between them.

to be weighed, to the scales where the shifting of a comparatively small amount of weight counterbalances a load of many tons.

The evolution of the modern scale has been a long and tedious process. The Chinese are credited with the invention of the "steelyard" which first made use of the "multiplying lever" principle. The first platform scale was probably invented in England. The first United States patent for machines to weigh heavy loads was granted in 1831. The first hopper scale used in Chicago had a capacity of four bushels.

In the early days the quantity of grain handled was comparatively small and a producer generally sold his grain directly to the consumer which made the checking of the weights by both the buyer and the seller feasible, but as the volume of grain increased this method became impractical, because both parties to a sale often could not be present and this brought about a demand for some means of looking after the interests of the absent buyer or seller insofar as "weight" was concerned.

Recognized Need 95 Years Ago

THE need for impartial weighing of grain was apparent for as early as 1850 the Illinois State Legislature, in granting to the Board of Trade of the city of Chicago its charter, gave authority to provide for the weighing of grain shipped into the Chicago market. So, the Department of Weights of the Chicago Board of Trade was organized to serve as a medium of settlement between buyers and sellers of grain, grain products and seed. Its purpose was and still is to furnish weights that are independent of the interests of either party.

A staff consisting of the weighmaster and a force of men organized into deputy weighmen, supervisors, scale inspectors and clerks carry on the work of the department. Deputy weighmen are stationed at the various elevators and transfer points. They are under the direction of supervisors who are constantly visiting the elevators and other points where weighing is in progress with a view to maintaining the highest degree of service and efficiency at all times.

To guide the deputy weighmen in their duties of weighing grain, handling scales, examining cars and making proper records, a set of rules covering almost every condition that may arise has been adopted, and is rigidly enforced.

No Uniformity Until 1918

NOW when weighing supervision was in its infancy there were no recognized standards to cover the adequacy of weighing supervision with the result there was a lack of uniformity of practice everywhere. At a conference in 1918 the weighmasters of the principle terminal markets adopted a resolution defining "Standard Weight Supervision." The substance of this resolution is as follows:

- (a) Supervision (direct) by impartial weighers receiving no remuneration whatsoever from the parties owning or operating the scales used in determining the supervised weights, or owners of the grain.
- (b) Supervision sufficient to assure intelligent inspection of all cars in-



FOR **MORE** PROTECTION



BEFORE



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Elevators take a terrific "spanking" from the elements. Heat, cold . . . contraction, expansion. Cracks develop, water seeps in, steel corrodes, deterioration sets in.

All damage is repaired with reinforced Gunitite. Thin surfaces are completely cleaned with sand and then waterblasting. *Finally*, not *one*, or *two*, or *three*, but **FOUR** coats of chemically compounded, highly elastic In-Fil-Tro-Flex weatherproofing are applied . . . all cracks are *permanently sealed* . . . surfaces *remain* watertight, weatherproof.

A B. J. Many job costs more, it's worth more; it lasts longer . . . and that's what counts. Cheap materials and faulty workmanship represent false economy. Profit by this enduring, *four-fold* protection. B. J. Many engineers will inspect your structures and submit cost estimate upon request.

bound and outbound, and the delivery of all grain from car to scale, or from scale to car, as the case may be.

(c) Inspection of scales and equipment used to weigh and handle grain to and from cars.

(d) Comprehensive record of all activities.

(e) Supervision clothed with sufficient authority to enforce rules and regulations recognized to be essential in order properly to protect the weights of grain."

The first official handling of the grain takes place when the car reaches the inspection yards of a railroad. Here the trains are broken up and each car ordered to its respective unloading point where the contents are removed and the grain weighed under the supervision of the Board of Trade Weighing Department.

The service of the department, with few exceptions, extends to the various classes of unloading points, including all public and private elevators, transfer and malt houses, railroad transfer yards, mills, and some large wholesale feed stores. At each unloading point, according to the size of the plant and the volume handled, one to six men of the department are stationed.

First Looks For Leaks

WHEN a car is at hand and ready for weighing, the deputy weighman has many duties to perform to obtain the precise weight. First, he records the results of an examination of the car box and records the numbers of the seals protecting the car's doors. He examines and balances the scale after assuring himself that all grain handling equipment is in good order and grain tight. He sees to it that the weighing is made without delay. Extra handling of grain before weighing, or the use of attachments for the purpose of blowing and cleaning grain that might in any way effect the weight, are not permitted. In a word, no condition that might be conducive to shortage is tolerated.

To guard against error, the weights in every case are verified by some recording device, or by recording the denominations of the hanger weights used in weighing. All original records are made in "bound" books.

It is the duty of the deputy weighman to prevent all waste of grain and to see that each car is thoroughly swept.

Finally, the deputy weighman sends a complete report to the office. It is not a general report, but rather a specific report on each step in the process of handling each car. This history of the car—and such a history is made of every car—is placed on file in the weighmaster's office for future reference.

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Department Sees All, Knows All

ALL equipment used in securing the weight of grain is under the direct supervision of the department. All weighing machines must be tested and approved before any weight will be certified to. The weighing department employs its own scale inspectors who regularly inspect and test all scales used by the department.

The department's scale testing outfit includes 140,000 pounds of U. S. standard test weights for use in the field. Complete sealing outfits for keeping both test and hanger weights in correct seal are among the department's equipment. To assure the correctness of the field or working standards, frequent comparisons are made with the "Prime Standards" attested and sealed by the U. S. Bureau of Standards. In this way the department sees to it that the scales and equipment used are suitable and correct and are maintained in the best possible condition.

Yet, be it remembered, that no matter how excellent the design of the scale, how perfect its installation, or how painstaking its maintenance, if the operation be faulty, the result is error.

All Possible Hazards Watched

IT IS the concern of our weighing department that grain shipped to the Chicago market is kept free from all preventable hazards. The safe movement of grain through the Chicago district to the unloading elevator is then the concern of the department which must have assurance that the car has full protection against pilfering en route. Should loss occur from this cause or from any other source, such loss must promptly be made a part of the car's record.

The department's employees must be ever on the alert to give full protection in the matter of weights, keeping in mind at all times that the "true weight" of a carload of grain is the weight of ALL the grain the car contains. It follows then that all grain must be removed from the car if the shipper is to receive an honest accounting of the grain he loaded. All cars must be swept clean of all grain irrespective of whether the grain is weighed over a track or hopper scale.

The department makes careful investigations of all reported discrepancies and it is ready to aid in the equitable adjustment of disputes.

If the weighmaster is to certify to the accuracy of weights he must have—good scales, properly installed and maintained—grain-tight handling equipment, frequently inspected—

HIGH UNION WAGES, HIGH TARIFFS AND GOVERNMENT TAXES—A WARNING

SOME 80 years ago when steam power was applied to looms, textile goods were woven and offered for sale at a cheaper price than hand weavers could make them, so that eventually hand loom weaving almost ceased to be practiced throughout the world. Gradually, however, as the years passed, the wages of weavers in textile factories, and government taxes, increased; freight rates on raw materials and finished goods also increased because factories were moved far from the centers of the production of raw materials, and in some instances, too, far from where the finished products were bought. This has all tended to increase greatly the cost of the finished materials.

Of recent years some of these costs have tended to rise even more steeply; union wages, as a result of strikes and threats of strikes; government taxes and high tariffs. The result of it all is that today many kinds of materials can be made on hand looms at cheaper prices than similar goods can be made in factories, particularly where the finished hand-made goods are for sale near where the hand weavers work. This is one reason, among some others, why the demand for hand woven goods, and why hand loom weaving, is increasing by leaps and bounds on the American continent, for not only are the hand woven goods cheaper, but in addition they are of much more varied and pleasing designs than factory-made goods, and frequently too, are of higher quality.

efficient, honest personnel—detailed systematized records. These all together spell — "CORRECT WEIGHTS."

CORN FOR DISTILLERS

Tentative plans now call for 1,000,000 bu. corn monthly of No. 4 grade or lower for distillers in November and December, provided these processors can recover 15 lbs. of feed by-product for every 56 lbs. of grain used. An equal amount of other grains will be permitted. During September-October only 2,500,000 bu. grains other than corn will be allotted.

The nation's productive capacity was reduced in 1944 by the loss of 41,500 workers. National Safety Council figures show that 18,000 were killed in work accidents, and 23,500 in off-the-job accidents.

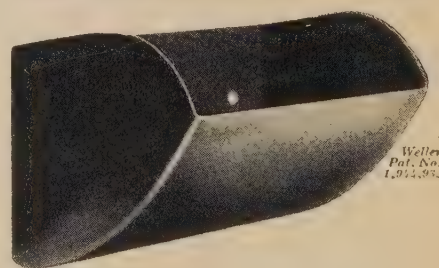
Nationally, there was one fatal accident for every 372 families in 1944, reports the National Safety Council. One out of every three families had a disabling injury, and the cost per family averaged \$139.

Supply and Demand Again

STUDENTS of economics will note in all this the workings of the classic law that whenever any group of people, such as Labor Unions, or even the Government itself, tends to ask too much from society for its services, that society has a method of protecting itself by discovering some other way of manufacturing or some other method of operating. If persisted in, high wages and high taxes will certainly tend to increase hand loom weaving, and so will tend to cause unemployment in factories, which unemployment ever has been, and probably ever will be, the result of Labor Unions insisting on ever higher hourly wages, resulting in a higher price for goods than people can afford to pay.

Years ago it was noted in England that when the Government tariffs and excise duties on foreign goods became so high that the people in general could not afford to pay the price for goods, smugglers by the thousands created what was considered to be an almost honorable profession, and it was only when tariffs and high excise taxes were reduced that the business of smuggling began to decline. In short, the people always find a way to satisfy their needs and desires in spite of what they consider to be oppressive laws, oppressive taxes or oppressive actions on the part of any group of people. —Searle Grain Company, Ltd., Winnipeg.

Two of every seven pedestrians killed in motor vehicle traffic accidents are 65 years or over.



"COLD BLOODED!"

... unbiased comparative tests conducted by mill and elevator operators all over the country prove conclusively that the

CALUMET Super Capacity Elevator CUP

does up capacity and lower operating costs. Send for Form 35. Learn how much increased capacity you can get from your elevator legs with the elevator bucket that has the Logarithmic Curve.

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Chicago 4, Ill.

Furfural, Made From Oat Hulls and Corn Cobs, Goes Into Synthetic Rubber, Refining Oils, and Synthetic Resin Plastics

FURFURAL, a solvent and chemical widely used in the making of synthetic rubber, did not come into mass production until the war although first discovered more than 90 years ago. The substance is made from oathulls, corneobs, etc.

Furfural is being produced by the Quaker Oats Company in plants at

Cedar Rapids, Ia., and Memphis, Tenn., after extensive research at Quaker's laboratories in Chicago under Dr. F. N. Peters, Jr., director of research; Dr. Lauren B. Hitchcock, manager of the chemicals department, and Dr. Henry P. Howells, in charge of furfural production at Cedar Rapids.

Need Hulls for Feed

THE chemical is an amber colored liquid with the odor of bitter almonds, slightly heavier than water. It is produced from oat hulls, cottonseed hulls, and corneobs by an hydrolysis process involving sulphuric acid and heat. Corncoobs are used more extensively because hulls are being currently used for stock feed, according to Dr. Hitchcock.

Although furfural's largest use is as a purifying agent in making butadiene synthetic rubber, its ability to dissolve one substance in a mixture and leave the others gives it additional uses in industry.

Six major oil companies use it in the refining of lubricating oils, and nearly all manufacturers of grinding wheels have added it to their processes. Furfural is used in the production of synthetic resins from which such military plastic items as steering wheels, helmets, electrical insulating boxes, and bottle caps are made, Dr. Hitchcock reports.

Source Is Pentosan

CHEMICALLY, furfural is obtained from a wood sugar known as pentosan, found in hulls, cobs, and various woods. At Quaker's Cedar Rapids and Memphis plants carloads of cobs are unloaded by suction, ground, and placed with acid and water in a ball shaped cooker known as a digester.

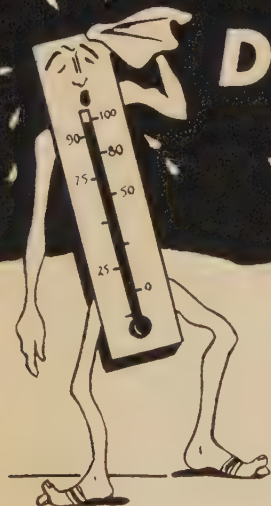
The digester is lined with carbon brick, and it rotates while the mixture is cooked with steam. Through a series of distilling and condensing processes the furfural is separated from water and impurities. All that remains of the corncoobs is a residue which looks like coffee grounds and is used either for fuel or as a fertilizer base.—Chicago Tribune.

WHEAT GRIND UP

Wheat ground during June by 1,032 mills totaled 53,434,569 bu. as compared with 54,540,859 bu. ground by 1,031 mills the preceding month, and 41,359,521 bu. ground by 975 mills in June of 1944. For the 1944-45 crop year an average of 1,019 mills ground 587,462,759 bu. wheat, as compared with 544,137,789 bu. ground by an average of 988 mills the year previous.

WITH HOT WEATHER HERE

DON'T TRIFLE with WEEVIL



Unless you take prompt and adequate control measures, any infestation you may have now will multiply many times through summer and fall

- Treat your grain now with

Larvacide

CHLORPICRIN

This powerful tear gas fumigant penetrates kernels to kill eggs and larvae within, along with the adult insects. Toxic to all granary pests including grain mites.

LESS RISK OF ACCIDENT—Larvacide's unmistakable warning of its presence cuts down risk of accident.

FOR LIGHT INFESTATION, use the Larvacide "SANDWICH TREATMENT"—When turning, treat first, middle and final few hundred bushels with about a quart of Larvacide—this for the average size bin. Small cost. Big results. Saves heaps of trouble later on.

FOR GRAIN IN SHALLOW BINS that cannot be conveniently turned . . . use Larvacide-15-MIX. Apply by spraying or sprinkling surface of grain. Larvacide 15-MIX comes in 50 gallon drums only; regular Larvacide in cylinders 25, 50, 100 & 180 lbs., and handy 1 lb. Dispenser Bottles, each in safety can 12 to wooden case.

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SEEDBURO CATALOG OUT

Sixty new items have been added since last year in the recently released Seedburo Catalog and Reference Book, bringing the total number of products to over 400. A large section is devoted to the official rules and methods of grading grain, and while strictly authoritative, yet it is written in simple, easy-to-understand language.



With an enlarged page and type size and more explanatory illustrations, this year's book gives complete data about the products shown. Anyone concerned with obtaining equip-

PROVES EFFECTIVENESS OF SPRINKLERS

A recent comprehensive compilation made by the National Fire Protection Ass'n shows the effectiveness, relatively speaking, of sprinklers. While many dust explosions have ruptured the pipes and rendered systems useless, perhaps the day will come when hard rubber hose lines, adequately secured, will overcome even this fault. Here are the figures:

	Extinguished Fires		Held Fire in Check		Total Satisfactory		Unsatisfactory		Total No. of Fires
	No.	%	No.	%	No.	%	No.	%	
Alcohol Distilleries	2	25.0	5	62.5	7	87.5	1	12.5	8
Breweries	11	55.0	9	45.0	20	100.0	0	0.0	20
Cereal Mills	50	61.0	24	29.2	74	90.2	8	9.8	82
Distilleries	19	57.6	8	24.2	27	81.8	6	18.2	33
Flour & Grist Mills.....	132	55.0	72	30.0	204	85.0	36	15.0	240
Grain Elevators	61	45.5	42	31.4	103	76.9	31	23.1	134
Linseed Oil Works.....	33	50.7	21	32.3	54	83.0	11	17.0	65
Rice Mills	4	36.3	3	27.4	7	63.7	4	36.3	11
Starch & Glucose.....	18	54.5	6	18.2	24	72.7	9	27.3	33
Total	330		190		520		106		626

ment and supplies will find this book a helpful and useful working tool. Copies are available by writing the company at 626 Brooks Building, Chicago 6.

THOUGHT BEST EVER ISSUED

I received your June issue and after the first quick glance through it I believe it one of the best you have ever put out. It seems loaded with very good information for all the industry. —Edward E. Frauenheim Jr., George J. Meyer Malt & Grain Corp, Buffalo.

15 YEAR LOSS OF LIFE APPALLING

Based upon reports compiled by the National Fire Protection Ass'n, which that body estimates represents only about 10% of the total estimated fire fatalities, the loss of life in 220 grain elevator fires from 1930 until 1945 totaled 700 persons. Of the total number of explosions occurring during this period, dust explosions claimed the lives of 114.

"BEST INVESTMENT I EVER MADE"



Mr. E. W. Schuh, Underwood, North Dakota, writes, "I have used a Steinlite Moisture Tester for several seasons and find it to be the best investment I ever made. It is fast and very, very accurate. If I could not get another one, money could not buy the one I have. This Steinlite has surely made friends with my 200 patrons. They all have their grain tested for moisture before storing it on the farm." (Illustration shows Mr. and Mrs. Schuh attending a convention.)

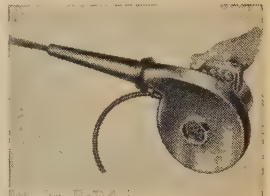
ORDER YOUR STEINLITE NOW

... if you expect to need one this season. Limitations have not been lifted on many Steinlite parts; they are still hard to get; simply cannot be had in a hurry. By placing your order for delivery, in one to three months you will be sure of getting a Steinlite Electronic Moisture Tester when you need it. No money down. Sold on 10-day free trial. \$275.00 F.O.B. Atchison, Kansas.

626 BROOKS BUILDING, CHICAGO 6, ILLINOIS

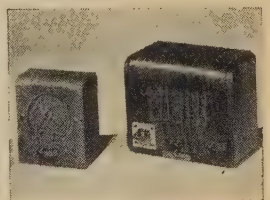
PORTABLE BLOWER

Model 8A — Keep motors, machinery, line shafting, etc., free from fire hazard. 3/5 H.P. motor. Easily converted into sprayer or industrial vacuum cleaner. Price \$71.50. Attachments extra.



CALL-A-PHONE

Inter-office communication system. You contact one or up to five persons while they remain at their work. Personnel can contact you. Master station, \$34.00. Substations, each \$12.50.



HAND TACKER

Simple construction, designed to eliminate damage to stapled material and injury to operator. Precision engineering insures uniform stapling. Fully guaranteed. Price \$6.00. No. 2, 3/4" length staples, 10,000 per carton, \$4.20.



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Primarily SEED TRADE
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AT It!

THE *Weevil-Cide* COMPANY
THE DEPENDABLE GRAIN FUMIGANT

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KANSAS CITY, MO.

U. S. DEPARTMENT OF LABOR
ARTICLE 4

The skill and strength of our industrial workers must be guarded against accidents and diseases so as to carry through the war production program. With this end in view Secretary of Labor Perkins' committee to conserve manpower in war industries has compiled a list of do's and don'ts to keep workers from getting hurt. This is the fourth of a series of articles prepared by the Department of Labor so that all workers can check the hazards applying to their own jobs and safeguard life and limb in their own interest and that of war production.

Hand Tools

1. Use only tools that are properly sharpened and in good condition.
2. Use suitable shields to cover the dangerous parts of sharp-edged or pointed tools that must be carried about.
3. Use only tools free from broken or splintered parts. Be sure that hammer heads are secure on handles.
4. Chisels, hammers, or other tools on which the heads have become mushroomed should not be used.
5. When using wrenches, be sure that the jaws are not sprung and that they are properly applied to the nut, so that the wrench handle will turn in the direction in which the jaws point. Never use a wrench or any other makeshift as a hammer.
6. Use wrenches properly sized for the job; be certain that the wrench is correctly applied to the nut or bolt head. Where necessary to push against a wrench handle in close places push with the hand open.

(The fifth article of this series will deal with ladders and scaffolds.)

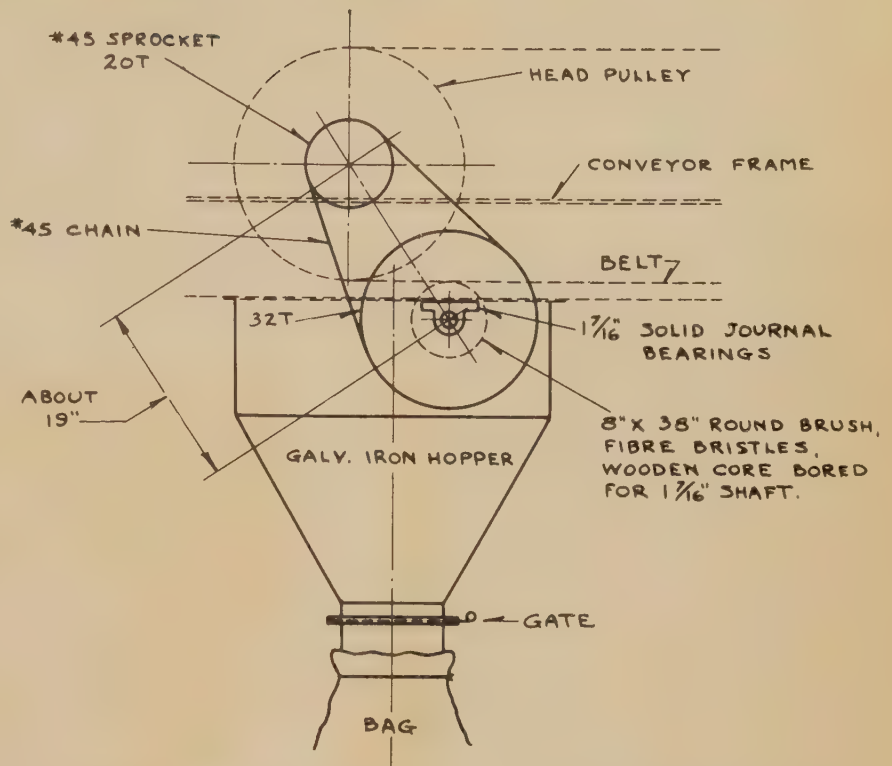
WIDTH GRADERS DOING WONDERFUL JOB

We understand that the Width Graders introduced on the market a relatively short time ago are doing a wonderful job on barley. It is unfortunate that the difficulty of getting delivery before some time next winter precludes more of us obtaining same now.—Les Irwin, Superintendent, Searle Grain Co., Ltd., Fort William.

Send Us "GRAIN"

Please enter our subscription for two years, to be mailed to Mr. H. L. Stackhouse, Chief Engineer, Post Products Division, General Foods Corp., Battle Creek, Mich.

SIMPLE DEVICE SAVES SWEEPING: ALWAYS ON THE JOB



To reduce the amount of cleaning beneath the corn conveyor belts under Corn Products Refining Co.'s corn tanks, a roller type of brush and a hopper are installed at the Argo plant, as shown by the accompanying illustration, according to Frank A. Hasse.

The roller brush sweeps off the dust

and chaff that clings to the belts at the end of the conveyor. The dust goes into the hopper and then into a bag. Without the brush the dust and chaff would cling to the belts and be carried back under them and consequently would have to be swept up. A stationary brush was tried out, Mr. Hasse tells us, but it was not successful.

TO IMPROVE NUTRITION

The Food & Agricultural Organization of the Allied Nations, to which 24 countries have already voted approval, is to make studies of ways to improve world nutrition. The U. S. is committed to contribute \$625,000 the first year and up to \$1,250,000 annually thereafter.

COLLECTOR SPARK BLAMED

A spark in the dust collecting system of the Weber Flour Mills in Salina, Kan., ignited the spectacular night fire that gutted the properties, according to John J. Vanier, president. The \$175,000 loss, reported in our last issue, is to be rebuilt as soon as possible.

HIGH CAPACITY GRAIN CLEANING EQUIPMENT for TERMINAL ELEVATORS!



NEW PRIORITY-RATED
EQUIPMENT AVAILABLE
FOR ESSENTIAL NEEDS

Hart-Carter normally offers a complete line of special, heavy-duty cleaners for terminal elevators. Included are the 2564 Carter Disc-Cylinder Separator, combining discs and cylinders; and the all-cylinder 45 Hart Uni-flow Grain Separator. These machines offer a profitable answer to whatever cleaning, grading, separating or processing jobs you may be called on to handle.

HART-CARTER COMPANY

670 Nineteenth Ave. N.E.

Minneapolis, Minn.

MOISTURE CONTENT UP

Average moisture content of 1945 crop wheat must be at least 1% higher than for several years, taking the nation as a whole. In some areas, especially the central states, the average must be close to 2% above normal. Rainy harvest weather, a succession of showers at threshing time, plus high humidity for days at a time have produced this condition.—Millers' National Federation.

A traffic sign in a small town reads: "Drive slowly—no hospital." Bigger towns might well have a sign saying, "We have a hospital—but no room for you!"

WHEAT CARRYOVER OFF

Compared with 317 million bu. on July 1, 1944, and 622 million on July 1, 1943, the total carryover of wheat in the U.S. in all positions on July 1 of this year was 262 million bu., reports the USDA. Terminals held 67 million, merchant mills 58½ million, interior mills and elevators 42 million, and farm stocks were 90 million.

Approximately 30 million bu. wheat disappeared from all storage positions in the April 1 to July 1 quarter, an unusually heavy volume. New crop grains have already filled every available bit of room.

HANDLE RECORD 6 MONTH GRAIN VOLUME

Railroads carried more grain and grain products in the first half of 1945 than in any corresponding period in history, ODT announced recently. The 1,243,473 cars moved compared with 1,209,403 ('44) and 1,231,081 ('43). Recent loadings reported are:

	1945	1944	1943
July 14	65,645	62,536	62,504
July 7	54,932	57,120	54,809
June 30	62,383	58,600	60,479
June 23	56,873	53,333	55,610

SOYBEANS TO C/S MILLS

To utilize crushing facilities and balance oilmeal distribution, CCC is planning to ship about 7,500,000 bu. soybeans into the Southwest. This year's production of cottonseed will fall short of last year's by about 87,000 tons in Oklahoma and some 40,000 tons in Texas.

GRAIN 55% OF LEND-LEASE

About 55% of the lend-lease deliveries made in June were grain and grain products, according to a USDA report just issued. About half of the increase over the 329,625,665 lbs. shipped in May and the 727,613,864 lbs. shipped in June was grain and products.

DISTILLERS USE LITTLE GRAIN

The distilling industry uses but a fraction of 1% of the nation's total grain supply in its operations, according to Lester E. Jacobi, president of Schenley-Distillers Corp. in also revealing that his company produced 197,872,992 gallons of war alcohol since war began. All distillers combined produced 1,100,000,000 gallons for synthetic rubber and other urgent war uses.

The industry has developed a by-products recovery program geared to return to agriculture as high-vitamin livestock feeds up to one-third of all grains used as raw material, as only the starch content of the grain is used in alcohol production while the feed concentrates are derived from the unused mineral and protein content. The Schenley concern is currently recovering 9,000 tons of feed by-products per month.

TO BUILD FEED PLANT

A feed, seed and fertilizer plant for the Lake O' Lakes Creameries, Inc., has just been approved for construction in Minneapolis.

Send Your Expediter Fishing!



He won't be needed on orders sent to the Imperial Belting Company.

The pressure's on and we're in a sweat supplying our customers with REXALL Belting; but war or no war, we'll take care of them with prompt deliveries of belting of prewar quality.

Patronize IMPERIAL who does not use the war as an alibi for its own deficiencies, but seeks your business on the basis of merit.

IMPERIAL BELTING COMPANY

1750 S. Kilbourn

Chicago 23

For Your Bulletin Board

We believe that each Superintendent will find some way of using these reminders to good advantage. Where you have bulletin boards or blackboards, you may wish to post (or write) these reminders on those boards. You may also use them for your own series of instruction cards, pay-roll inserts, etc.

By using the entire series, either on bulletin boards or by distribution to all employees, you will reach all workers in the plant with a succession of messages which will call their attention to all known hazards at least once during the year. SOGES Safety Contest Director Clarence W. Turning invites your comments and suggestions.

1. Guard against machinery as though your life depended on it—for it does.

2. A study of past accidents will bring out causes and help determine methods of prevention.

3. Always replace broken steps, runways and toe-boards when you find them.

4. Keep your respirator clean. Do not permit oil or grease or solvents to soften the rubber parts.

5. 85% of all knowledge comes through the eyes. Protect your eyes!

6. Do not try to lift too much. Get help if necessary.

7. Tools should never be left on a step-ladder, except in a proper tool-holder.

8. Keep stairs, stair landings, and fire escapes clear of obstructions.

9. Habit is a cable. We weave a thread of it every day and at last we cannot break it.

10. Keep your bench, machine or work place clean, neat and orderly.

11. Even halitosis is better than no breath at all. Learn artificial respiration.

12. A match has a head, but no

brains. When you use its head, use your brains.

13. Safety pays if you are careful. You pay if you are not.

14. If you have too many irons in the fire, some of them will burn.

15. Never overload a scaffold.

16. Help keep your department clean.

17. Courtesy to one another will make the work easier, the day go better, and eliminate injuries.

18. All excavations, open manholes, or other places where persons might fall, should be protected.

19. Make sure your job is safe—first, last and always—to guard your life, health and welfare.

20. Proper lubrication and proper inspection of machines is of vital importance.

21. Drudgery is as necessary to bring out the treasures of the mind as are plowing, harrowing and planting—those of the earth.

22. He who invents a machine increases the power of a man—and through him the well being of mankind.

23. Successful persons are those who have the knack of securing the cooperation of others.

24. Cool heads are cheap life insurance.

25. Each operator is responsible for the good condition of his machine and the floor about it.

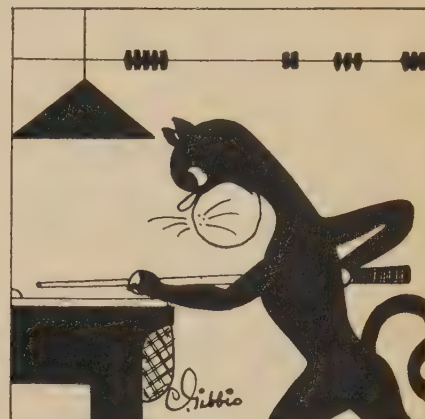
26. Before eating and before going home, wash hands, arms and face with soap and water.

27. The signs in this plant mean what they say. Take them seriously.

28. Be sure to wear goggles when grinding.

29. The spirit of safety must never grow old. We must do something each day to improve our accident prevention methods.

30. Vigilance and watchfulness insure safety. Don't trust wholly to the care exercised by another, when your own safety is involved.



Snooper says—Don't put yourself behind the 8-ball by neglecting to plan and promote a good safety program.—Gibson Franks.

WHEELBARROW PHILOSOPHY

The philosophy of safety is one of hard work—as it is of every worthwhile accomplishment. The conception of safety can be taught, and to that extent it may be “sold.” To be effective, however, it must be practiced and lived. That is why its achievement is contrary to many of our human tendencies.

Too often we endeavor to save ourselves trouble and work by taking short cuts. We are prone to relax, to take a chance rather than to put forth an effort. We sit idly by and hope accidents won't happen instead of doing something definitely constructive so that they shall not happen.

Safety is like a wheelbarrow—if you don't push it, it won't go.—Don Hansen, International Milling Co., Minneapolis.

Approximately 70,000 people suffered some permanent disability from work accidents in 1944.

FAMOUS LAST WORDS: “Well, if he won't dim his, I won't dim mine!”

The principal types of fatal accidents to children (5-14 years) are as follows, reports the National Safety Council: motor vehicle, 31 per cent; drowning, 24 per cent; burns, 12 per cent; firearms, 9 per cent; falls, 8 per cent.

Persistent people begin their success where others end in failure.—Edward Eggleston.

If you wish to please people, you must begin by understanding them.—Charles Reade.

Times change and we move with them.

Perfection is attained by slow degrees: it requires the hand of time.—Voltaire.



NEW PLANT PART UP

We started construction of our new elevator at Bellevue, Ohio, around the first of the year, but due to the manpower shortage we have not progressed very far to date. At present we expect to have half of the elevator up in time for use during the latter part of the harvesting of this year's soybean crop. The second half will be finished during the late fall and winter months.

We are just now starting the erection of the buildings for the solvent extraction plant. It is our hope that the complete plant may be erected and all the equipment installed in time to start extraction operations with the harvesting of the 1946 soybean crop.—Theodore C. Jewett, Gen. Supt., Spencer Kellogg & Sons, Inc., Buffalo.

CENTRAL SOYA TO BUILD; ADD CAR DUMPER

A 2,000,000 bu. addition is to be added to the facilities of the Central Soya Co. at Decatur, Ind. In addition a car dumper is to be installed. The company's subsidiary, the McMillen Feed Mills, will be likewise served through the new properties.

TO ADD HALF-MILLION

Work will commence shortly in a 500,000 bu. addition for Central Soya Co. and McMillen Feed Mills at Gibson City, Ill. The tanks will be 120 ft. high and 27 ft. wide.

EXPANSION MOVE AT SUPERIOR

A 2,000,000 bu. addition to their modern terminal built in Superior in 1941 is scheduled to be erected next spring by the Farmers Union Grain Terminal Ass'n of St. Paul. A 4,000,000 bu. terminal was previously announced for Grand Forks, N. D.

NEW OREGON FEED MILL

A 250 tons daily mixed feed capacity plant is to be built for the Pacific Co-op. Poultry Producers of Eugene, Ore., including a sub-terminal.

CONSTRUCTION UNDER WAY

Adding 603,000 bu. storage to the Soy Bean Processing Co.'s plant at Waterloo, Ia., will give it 1,000,000 bu. total. Construction, now under way, comprises 21 tanks, which improvement program is placed at \$200,000.

TO ADD MILLION BUSHELS

A 1,000,000 bu. grain storage addition is to be erected for Hiram Walker & Sons at Peoria. New unloading pits and hopper scales, additional legs and truck unloading equipment, increased grain drying capacity, and other changes in the present headhouse are contemplated.

NEW FEED PLANT GOING UP

To replace a plant destroyed by fire last year, a \$200,000 feed mill is now under construction at Flemington, N. J., for the Delaware Valley Co-op. Ass'n, Inc.

NEW SUB-TERMINAL STARTED

Contracts were just let for the erection of a 350,000 bu. soybean storage sub-terminal and drying unit for the M.F.A. Co-op. Grain & Feed Co., Inc., Mexico, Mo. Contracts are about to be let for a 3,500 bu. daily capacity soybean crushing plant, according to Manager A. J. Loutch. The concern also operates a large mixed feed plant in St. Joseph, Mo.

HANDICAPPED VETERANS FOR WORK

Development of a simplified selective placement technique which makes easier the placement of handicapped veterans in jobs they can do best, is reported by WMC. Persons with handicaps resulting from industrial accidents or diseases are equally assisted thereby.

"Under medical standards in many plants," Chairman Paul McNutt pointed out, "a person with specific handicaps would be rejected for employment where his physical disabilities restrict the working conditions to which he can be exposed. Disabled persons can and must be considered as individuals with all the different abilities, capacities, aptitudes and ambitions that characterize all human beings."

"Disabled veterans with identical handicaps will vary in their abilities, etc., to such an extent that their readjustment must be considered on an individual basis. Our aim, Mr. McNutt says, is to find the right job for each handicapped individual. The co-operation of all industry is solicited."

DECERTIFICATION POSSIBLE

Based upon claims of labor turnover and employes' disavowal of the union as bargaining agent, an employer can sometimes get NLRB to consider his request that a union's certification as bargaining agent be cancelled.

FOREMEN'S ASSOCIATION ELECTION APPROVED

The argument of an employer against holding an election to determine whether his foremen and supervisors shall be represented by the Foremen's Association of America on the ground that FAA is a "company union" did not hold in a New York decision recently.

In 1943-44, one-half of all accidents on the school playground occurred during unorganized play, the National Safety Council reports.



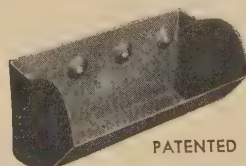
We don't have to rebuild this leg. "Nu-Hy" Buckets will increase our capacity

Let "NU-HY" BUCKETS increase the capacity of YOUR elevator legs!

"Nu-Hy's" give you more efficient pick-up—more efficient discharge—smoother operation—less damage to grain and reduced wear on your equipment.

Their scientific design, greater load carrying ability and unique spacing possibilities have corrected inefficiencies in thousands of elevator legs.

Let us make a study of your operations. Write for Capacity Analysis Form No. 76, which will enable us to show you what improvements can be effected.



PATENTED

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Screw Conveyor Corporation
707 HOFFMAN ST. HAMMOND, IND.
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TRADE MARK REG. U.S. PAT. OFFICE

HOPPER BOTTOMED BOX CARS UNSATISFACTORY

About 20 years ago we built 3,500 steel-frame wood-sheet box-cars with hoppers, but they were not satisfactory as the hoppers could not be kept tight. Also the floor over the hopper would get broken when trucks were used for loading the cars with merchandise.

In addition to the above it was very hard to keep this floor level with the balance of the floor, as the frame warped. In consequence shippers of other commodities would complain of damage to their shipments.

Of the 3,500 cars originally equipped with hopper bottoms only 653 are left, and hoppers are being taken out of the balance when cars undergo heavy repairs. We have found that the standard box car is the most satisfactory all-around car for grain and other shipments.—H. B. Bowen, Chief of Motive Power and Rolling Stock, Canadian Pacific Railway, Montreal.

SOMETHING BOUND TO COME OF CAR UNLOADER IDEA

If your patience holds out long enough and you continue to keep your interest in this car unloading situation, I feel certain that something is bound to come from it.

As to the building of my car unloading device, my thoughts have always been to develop this machine fully at a plant before it is put on the market. Manufacturers, however, are of the



opinion that a customer should be found who is willing to pay a stipulated sum for the car dumper guaranteed to work.

That naturally means that all the kinks, etc., have to be taken out at that particular plant. This method has its merits, but first one must find that certain party. If some prospective buyer can be found who believes that this unloader is "on the beam" then I can get one built on the above basis.

So if anyone can be found through "GRAIN" who might be interested in being the guinea pig for the building of this unloader, would you be kind enough to let me know.—Edward E. Frauenheim Jr., George J. Meyer Malt & Grain Corp., Buffalo.

LIKES DOUBLE-DUTY HOPPERED GONDOLAS

We have been unloading some hopped gondolas and many of them are just fine. The Union Pacific has some gravel cars with tops on and two way hoppers, one unloading to the side and one that dumps to the center. That is a swell idea, as it helps to save manpower at this time of need.

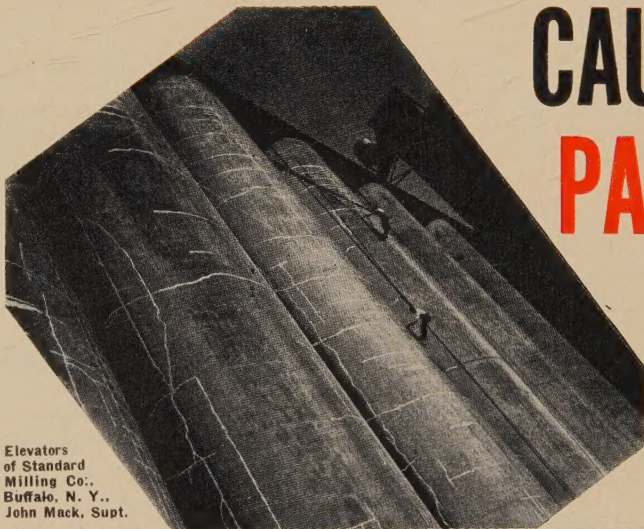
We have had some interesting correspondence from terminals and subterminals and processing plants at interior points throughout this area, and it is our hope that some of us

may visit them to tell them of our activities. In the meantime we look forward to obtaining at least one new member per week from now on.—John T. Goetzinger, Rosenbaum Brothers, Secretary, Omaha-Council Bluffs SOGES Chapter.

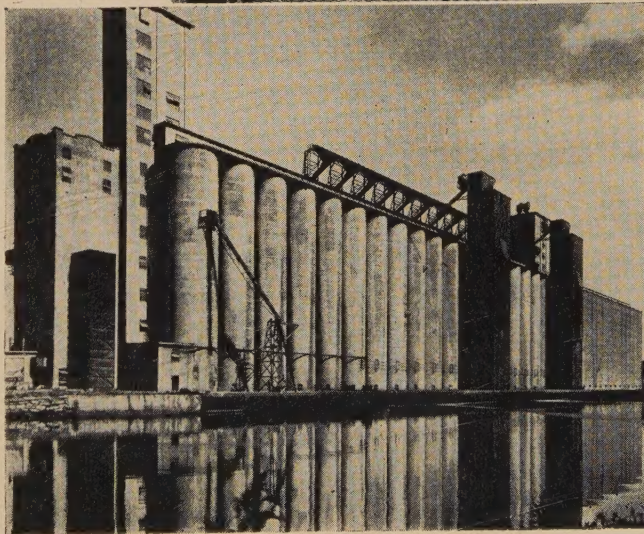
NEW PEORIA DISTILLERY

L. P. Weiner, former Superintendent of Hiram Walker & Sons distillery in Peoria, will head the new Pebble Springs Distilling Co., whose plant is scheduled for completion here by Nov. 1. The new firm is capitalized at \$2,000,000.

WATERPROOFING CAULKING PAINTING



Elevators
of Standard
Milling Co.,
Buffalo, N. Y.,
John Mack, Supt.



THIS job done by world's famous LeMere's Steeple Jack Service, using waterproofing and Cartacaulk — products of The Supreme Paint Company, Cleveland, Ohio.

WE FEATURE straight chair work, instead of heavy scaffolding, and stages. More actual work and less rigging time. All work guaranteed. Fully insured. Go anywhere.

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PROUD OF ACCOMPLISHMENTS

Cliff MacIver concluded his term of office in May and he really did an outstanding job. I believe that we are going to continue in the rapid progress that we have made during the past few years and are really going to have a bang-up Chapter here in Minneapolis.

Don't imagine it will be possible to have a convention this year, but that should only make the next one bigger and better. The way the man-power situation is right now, it's going to be nip and tuck to keep things going. I know that I'm not planning on getting too much time off and I believe many of the other boys are in the same condition.—Bob Bredt, Fruen Milling Co.

HOLD DANDY MEETING

We had a very fine meeting here in K.C. on June 19th. Mr. Ted Manning of Uhlmann Grain Company, had his son present and he gave us a dandy talk. Attendance was, as always, splendid. We expect to have a very active Chapter this fall and winter, and the new officers have some aggressive plans which they will shortly put into action.

We rise in glory as we sink in pride.—Young.

OMAHA ELECTS OFFICERS

Charles F. Walker of Archer-Daniels-Midland Co., was re-elected president of the Omaha-Council Bluffs SOGES Chapter at the June meeting of that body. John T. Goetzinger of Rosenbaum Brothers was re-elected Secretary. Directors include: Jerry Lacy of Westcentral Co-op. Grain Co.; Herb Sales of Updike Grain Co., and Vincent J. Blum of Omaha Elevator Co.

"I guess," smiled President Walker, "that the membership thought John's and my name was Roosevelt."

CHICAGOANS FOR SPELL

Chicago visitors recently have included Edward E. Frauenheim, Jr., George J. Meyer Malt & Grain Corp., Buffalo; Bill Scates, Albers Milling Co., Seattle and Oconomowoc; John Goetzinger, Rosenbaum Brothers, Omaha SOGES Chapter Sec'y; James Auld, Hales & Hunter Co., Minneapolis SOGES Chapter Sec'y; Frank Blodgett, Weevil-Cide Co., Kansas City; Bob Merwin, Eriez Mfg. Co., Erie, and Wayne Loveland, Hydrozo Products Co., Madison, Wis.

Forty-four times as many people between the ages of 5-19 died in the United States from accidents as died from infantile paralysis.

ANNOUNCE MEETING SERIES

The Chicago SOGES Chapter announces that their 1945-46 monthly series of meetings will be inaugurated on September 11th. Speaker of the evening is to be a noted economist from the University of Chicago who is scheduled to address the group on "Let's Make More Money for the Boss." This active Chapter will meet the second Tuesday of each month thereafter.

SUGGESTS NO MARDI GRAS CONVENTION

As to the possibility of holding an SOGES convention in New Orleans at Mardi Gras time, I might point out that these festivities have been abandoned for the present, and further that same is held in late February or early March. I do not know whether the SOGES could hold a convention at that time as it is probably one of the busiest periods.

However, New Orleans would heartily appreciate an opportunity of playing host to the SOGES, and you can rest assured it would be my pleasure to arrange a convention here whenever the Society should decide to meet here.—Charles J. Winters, Superintendent, Public Grain Elevator, New Orleans.

HAVE IT DONE RIGHT IN THE FIRST PLACE

Planning to Install Some New Equipment?
Contemplating Streamlining Your Operations?
Want to SAVE Money, Time and Errors?

•
Engineering an Installation
Is Our Specialty. That's Our
Work Day In and Day Out.

•
Your Neighbors Employ Our Services
You, Too, Can Profit on Our "Know How"

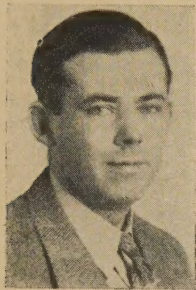
THE INDUSTRIAL ERECTORS, INC.

----- Erectors of Industrial Machinery and Conveyors -----

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STORAGE YARD - - - - - 1306 W. CERMAK RD., CHICAGO 8
WAREHOUSE NO. 2 - - - - - 1340 W. CERMAK RD., CHICAGO 8
ALL PHONES SEELEY 1677

INGRAM RICHARDSON MOVES

Ingram H. Richardson, long able Chicago Office Manager for the Richardson Scale Company of Clifton, N. J., manufacturers of car dumpers, weighing equipment of all kinds, and



bag sewing equipment, will move his headquarters to the factory shortly after Labor Day. He was recently appointed Sales Manager of the firm in addition to his duties as First Vice President.

In his new capacity he will cover the entire continent.

A son of the well known "Uncle Henry" Richardson, founder and inventive genius of the concern, Ingram will follow right along in his father's footsteps, as was evidenced by the outstanding work he did for hundreds of war plants the past few years. Mr. Richardson Senior is working on some sweeping experiments which hold great promise for our readers.

PERRY SUCCEEDS MONTGOMERY

J. C. Perry has succeeded M. Montgomery as Superintendent of the Fort William (Ont.) Elevator Co., Ltd.—Fred A. Sibbald, SOGES Chapter Sec'y.

NEW ST. LOUIS ELEVATOR

A 360,000 bu. grain elevator, with complete headhouse, grain drier, unloading facilities, etc., is to be erected for the National Oats Company.

USES DAILY REMINDERS TO GOOD ADVANTAGE

We are using the daily safety reminders published in each issue of GRAIN to good advantage, writes Paul H. Christensen, General Superintendent of the Van Dusen-Harrington Co.



At the present time we are reproducing them and enclosing copies in the paycheck envelopes going to all our

workmen at our eight terminals here in Minneapolis. We hope to both keep alive and further develop a keen consciousness of the daily necessity

for safety, and hope others are likewise profiting by Clarence Turning's valuable compilations.

HERMAN WILHELM TO MONARCH

Herman Wilhelm was promoted from foreman to succeed George A. Dunkelbeck, 66, who retired July 1st as Superintendent of F. H. Peavey & Co.'s Monarch elevator in Minneapolis after 42 years of service. Now living near Mankato, George began his career at the Kasota (Minn.) Elevator as a shoveler, later becoming a grain buyer in So. Dak. Returning, he moved up to millwright and house foreman at the Republic in 1909, transferring to the Monarch as Super in 1933. He was active in SOGES association work, and frequently held office and committee posts.

THOMS RESORT ALLURING

Harry W. Thoms, former Superintendent of the Kinnickinnic Elevator for the Stratton Grain Co., Milwaukee, a past SOGES Director and the successful SOGES convention chairman when that body met in Milwaukee, is now located on Little Lake, St. Germaine, Wis.

He has five cabins on his property now and contemplates building more. This choice spot is about 17 miles northwest of Eagle River; as a matter of fact that is his address, Route 1.—Frank E. Carlson, Engineer, Underwriters' Grain Ass'n., Chicago.

Oh Yeah?

Johnny: Teacher, can someone be punished for something he didn't do?

Teacher: Why no, of course not.

Johnny: Well, I haven't done my arithmetic.

KID SALVAGE



V-681

CELEBRATES 25TH ANNIVERSARY

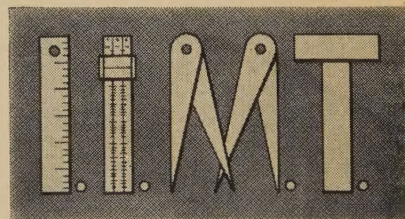
On June 1, 1920, he started his business career with the Cloverleaf Milling Co. of Buffalo—an Arcady division. Two winters later he spent at the Riverdale plant. Returning to Buffalo he won advancement rapidly to Foreman and later to General Foreman.



A few years later he was transferred to take charge of the company's North Kansas City branch, then known as the Triangle Milling Co. Transferred once again to Riverdale in 1926, Gilbert P. Lane has remained as Plant Manager of the Arcady Farms Milling Co.'s plant ever since.

Father: "Son, you take accounting at college, don't you?"
Son: "Sure, Dad."

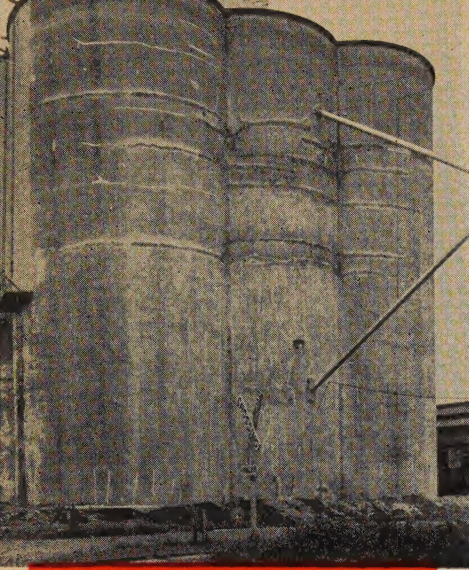
Father: "Then maybe you can account for the silk lingerie you sent home in your laundry last week."



IIMT HEAD TO PHILADELPHIA

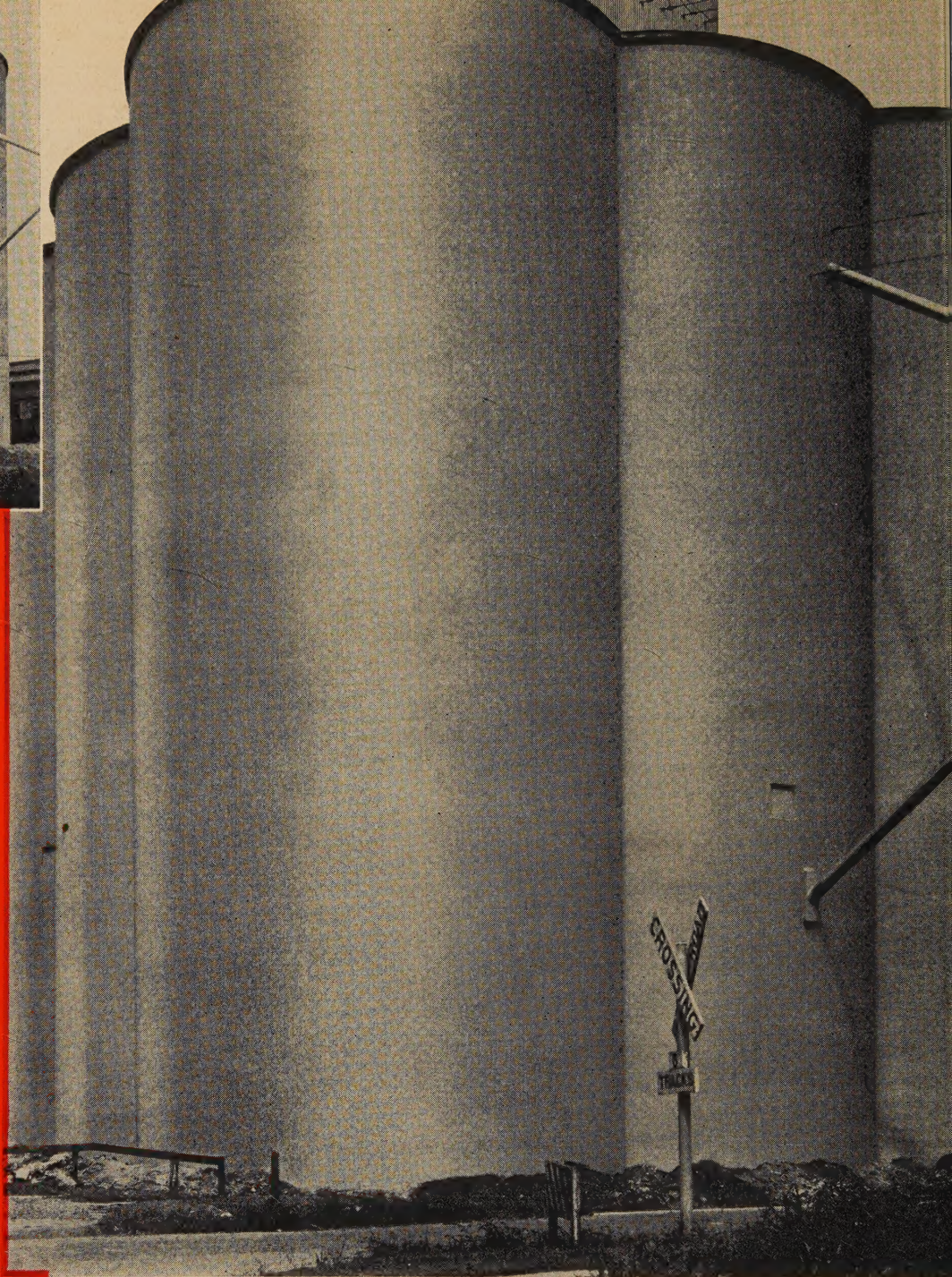
Frank M. Walter, president of the International Institute of Milling Technology and a widely known milling engineer, will become associated with the Publicker Commercial Alcohol Co. of Philadelphia, Pa., right after Labor Day. For the past three years he has been associated with the U. S. Rubber Co.'s Kankakee (Ill.) Ordnance Works, of late as Area Engineer on special assignment in the Maintenance Department, and previously as Chief Engineer in charge of Central Shops. This plant was one of the largest in the country manufacturing high explosives.

Prior to this war work, President Walter was associated with Robinson Mfg. Co. of Muncy, Pa., for 12 years as their Milling Engineer, joining this firm following being Chief Engineer for Barnard & Leas Mfg. Co., of Moline, Ill. Before World War I he was with Nordyke & Marmon Co., Indianapolis, in their milling engineering department, following his apprenticeship with the Lawrenceburg (Ind.) Roller Mills. He spent considerable time in Central America in erecting new and remodeling old mills.

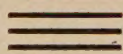


THE above unusual picture reveals the infinite care with which The Merchants Elevator at Davenport, Iowa, owned and operated by the Victoria Elevator Company of Minneapolis, Minn., is being thoroughly restored to 100 per cent usefulness—every inch of storage space soon will again be safe and sound for income-producing storage. Several interesting stages in the complete restoration process are visible, including the "flesh grafting" over the "cancers" that have been cut out, the caulking, and the penetrating primer coat. Particular skill in these operations is highly desirable in order to give the tanks just the right flexibility for future expansion and contraction without further breaks at old "sores."

At the right is shown the restoration work just completed. This section of the 1,000,000 bushel elevator now is as weather-tight as anyone could hope for—and your plant and your grain can be equally well protected.



IT'S THE OLD, OLD STORY:



"A STITCH IN TIME"

. Saves more than the proverbial "nine," as the old axiom goes. For "cancers" in concrete are no different than any other "cancers." Put the knife to them just as soon as they're discovered and you save one whale of a lot of future costly "operations." "A Stitch In Time Saves Nine," true. But more important,—it helps insure the condition of your stored grain,—and how costly that can be when it goes on a rampage. In everyone's past experience there's one or more "black pages" in his memoirs—weeks when the fight with grain spoilage was nip and tuck. You don't NEED to dread any such a recurrence because of the weather now.

Take that "STITCH" in time, TODAY. There are no priorities on our proven materials; your government wants every inch of space in existence, and restoration work of this nature had better be done now while it is still possible to get skilled artesans to assure you the kind of work you get from



JOHN D. BOLTON COMPANY
20 N. WACKER DRIVE *Gunito Contractor* CHICAGO